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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,441

02/15/2006

Yuji Ukuma

M1071.1956

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32172

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08/06/2008

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

08/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,441	Applicant(s) UKUMA, YUJI	
	Examiner Cathy Lam	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 16 is/are rejected.
- 7) ☒ Claim(s) 2 and 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-15-2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 8-15 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected process claims, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on June 03, 2008.
2. This application contains claims 8-15 and 20 are drawn to an invention nonelected with traverse in the reply filed on June 03, 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrases "the first (or second) borosilicate glass containing 85% to 95% (or 65% to 80%) by weight of silicon and 0.5 to 1.5% (or 3.5% to 8.0%) by weight of the alkali metal based on 100% weight of *all contained elements* other than boron...." is vague and indefinite, as it is unclear what exactly the first (and second) borosilicate glass is made of or contained. Furthermore, it is unclear what "other than boron" is referring to? Clarification is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1794

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki (US 7285232) in view of Piper (US 3612963).

Miki discloses a multilayer ceramic capacitor comprised of a ceramic element (1), a plurality of metal electrodes (2a-2f), and two external electrodes (3a&3b) (Fig. 1).

The internal electrodes are embedded within the ceramic element (1). Each one of the internal electrodes is electrically connected to one of the external electrodes at its end (col 5 L 22-25).

The internal electrodes (2a-2f) are metals such as Ni, Cu, Ag and Pd, preferably Ag and Pd (col 5 L 31-34).

The external electrodes (3a&3b) contain metals such as Ag, Pd, Ag-Pd alloy (col 5 L 35-36). The external electrodes (3a&3b) further containing a borosilicate glass with a major amount of SiO₂ and a small amount of alkali metal oxide (col 5 L 40-45). The alkali metal oxide can be K₂O or Na₂O (col 4 L 5-9).

A metal coating layer (4a&4b) which maybe nickel or copper is coated over the external electrodes (3a&3b).

Piper teaches a multilayer ceramic capacitor that is soldered to a substrate (36). A plurality of metallized lands (37&38) are formed on the substrate surface as a printed wiring pattern (col 5 L 56-58). External electrodes of the ceramic capacitor are bonded to the metallized lands (37&38) through the use of solder (col 5 L 68-72).

Miki is silent about the metal coating layer (4a&4b) (or the 2nd sintered electrode) includes any glass frit and/or alkali metal.

Both Miki and Piper teach the Ag and glass frit as the external electrodes (or the 1st sintered electrode) in electrical connection with the internal electrodes, and the metal plating over the external electrode (or the 2nd sintered electrode) being the Ni and/or Cu metal, the prior art arrangement is a reverse of the claimed external electrode arrangement.

In view of the prior art teachings, one skill in the art would add an alkali metal into the metal coating layer (or the 2nd sintered electrode) because alkali metal enhances platability of the conductive paste (Miki, col 4 L 26-32). Furthermore, one skill in the art would choose the metal materials for the internal and external electrodes because Ag, Pd, Ni and Cu are conventional for use as external electrodes in ceramic capacitors.

Allowable Subject Matter

6. Claims 2, 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if incorporate into the independent claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cathy Lam/
Primary Examiner, Art Unit 1794